



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,393	03/31/2004	Dai-Liang Ting	10113991	5368
34283 7590 05/01/2007 QUINTERO LAW OFFICE, PC 2210 MAIN STREET, SUITE 200 SANTA MONICA, CA 90405			EXAMINER TON, MINH TOAN T	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 05/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/814,393

Applicant(s)

TING ET AL.

Examiner

Toan Ton

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 30-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 30-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/7/07</u> | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-21, 30, 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Ha et al (US 2002/0113927).

Ha discloses a transfective liquid crystal display device a method of manufacturing a transfective liquid crystal display device comprising (see at least Figures 3-5): a first substrate 110; an insulating layer (e.g., 170) formed on selected regions on the first substrate, the insulating layer having a reflective top surface (e.g., 181); and a color filter (e.g., 191) over the first substrate, including at least one color pigment having a first portion (e.g., portion at the reflected region) of the color pigment covering the insulating layer at the selected regions and a second portion (e.g., portion at the transmissive region) of the color pigment on the substrate, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment; a liquid crystal element (e.g., 350) supported on the color filter on the array substrate.

Ha discloses the display device comprising a pixel electrode (e.g., 200) formed on the color filter.

Ha discloses the display device comprising a common electrode (e.g., 330).

Ha discloses the display device comprising the insulating layer (e.g., 170) extending beyond the selected regions on the substrate, and the selected regions generally define reflective

Art Unit: 2871

regions (e.g., 181) on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate (see at least Figures 3-5).

Ha discloses the display device comprising the insulating layer (e.g., 170) not extending beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions (e.g., 182) on the substrate (see at least Figures 3-5).

Ha discloses a surface of the color filter being higher in the reflective region (e.g., region of 181) than in the transmissive region (see at least Figures 3-5).

Ha discloses the insulating layer (e.g. 170) being thinner in the transmissive region than in the reflection region (region of 181).

In regard to the method claims, the method is merely providing elements for the transfective liquid crystal display device.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ha as applied to claims above.

A surface of the color filter being substantially the same height in the reflective and transmissive regions appears to be at least an obvious variation (i.e., not patentably distinct) to a surface of the color filter of being higher in the reflective region than in transmissive region. Thus, it would have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ the surface of the color filter being substantially the same height in the reflective and transmissive regions, as it appears to be at least an obvious variation (i.e., not patentably distinct) to a surface of the color filter of being higher in the reflective region than in transmissive region.

3. Claims 31 and 35-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Ha as applied to claims 1-21, 30, 32 and 34 above, and further in view of Chang (US 6914959) or Jeng (US 7072012) or Ha (US 20040201802) or Choi (US 7126662).

In a transfective LCD device, since light passes through the reflective region twice, it is common and known in the art to employ a thickness of the color filter in the reflective region of $\frac{1}{2}$ to a thickness of the color filter in the transmissive region, wherein advantages such as high display quality are achieved (see at least Chang/Jeng/Ha/Choi). Thus, it would have also been at least obvious to one of ordinary skill in the art at the time the invention was made to employ the ratio of the color filter thickness in the reflective region to that in the transmissive region of $1/1.2$ to $1/2$ for achieving advantages such as high display quality.

Further, it also would have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ a ratio of the insulating layer thickness in the reflective

Art Unit: 2871

region to that in the transmissive region being in the range of 2/1 to 10/1 for achieving advantages such as high display quality, excellent flattening characteristic.

Response to Arguments

4. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 26, 2007


TOAN TON
PRIMARY PATENT EXAMINER